

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Developing a Unified Inter-carrier	)	CC Docket No. 01-92
Compensation Regime	)	

**Comments of Home Telephone Company, Inc.**

Home Telephone Company, Inc. (Home), hereby files comments in response to the Federal Communications Commission's (Commission's) Notice of Proposed Rulemaking (NPRM) for the above docket. In the referenced notice, the Commission seeks comments on the development of a unified Inter-carrier Compensation Regime, specifically, on the feasibility of a bill and keep approach for such a unified regime.

Home is a rural incumbent local exchange carrier (ILEC) operating in the southeastern portion of South Carolina. We serve approximately 22,000 access lines, which are located predominately in rural areas of Berkeley County. Our service territory is adjacent to the Charleston, South Carolina metropolitan area. We, as most rural LECs, have been heavily dependent on revenues generated from access charges billed to inter-exchange carriers. Inter-carrier settlements and related revenues account for approximately 66 percent of our total revenue flow. Assuming that existing state and federal universal service supports were maintained with the adoption of a bill and keep settlement mechanism, but that access and other related revenue flows were lost, we would require a monthly surcharge of approximately \$27.50 per line, per month, to offset lost revenues. We are extremely concerned about the potential impact of this NPRM on our subscribers, as it could result in their paying a surcharge that is double the rate they currently pay for basic local exchange service. A significant surcharge or rate increase for basic local exchange service will negatively affect the availability of universal service in rural areas. Given the potential impact of this proposal on continued availability of universal service in most rural areas, including the subscribers residing in our service territory, we are compelled to offer the following comments.

## **Executive Summary**

The Unified Inter-carrier Compensation NPRM raises issues related to existing inter-carrier compensation mechanisms and seeks comments on alternative systems of compensation, such as a bill and keep arrangement. Although it appears that existing inter-carrier settlement regime must be modified, adoption of a pure bill and keep arrangement without any modification presents a real threat to continued availability of universal service in rural high cost areas. It is essential to realize that this is a massive change, especially, for high cost, rural ILECs, due to the potential for major revenue dislocations. High cost rural ILECs carriers can provide affordable basic local service *only* under a regime that ensures that the high cost of providing service in rural areas will continue to be averaged in some manner across all networks. It is absolutely critical that the Commission carefully examines the impact on subscribers residing in high cost, rural areas before modifying the existing inter-carrier compensation regimes.

The concept of averaging has allowed universal service to flourish in this country and should be a key consideration when evaluating any revision to the current inter-carrier compensation regime. Cost averaging was the heart of the old division of revenue pools. Average toll rates were charged to end-users and the resulting revenues pooled. With the advent of competition in the toll market, the access charge regime replaced the division of revenue pools. The pooling of higher rural cost was moved from shared end user revenues to shared access revenues. All carriers were initially required to pool the access charges billed to Interexchange carriers (IXCs). As high cost providers exited the pool, they were required to provide long-term support to the remaining pool members in order to keep the Carrier Common Line access rate averaged through out the nation. This long-term support simply represented the low cost carrier's share of the higher network cost incurred in serving the more remote, less populated areas of the country. The same public policy is behind the movement of cost recovery from access to a universal service fund, both by creating a high cost loop fund and by removing DEM

weighing<sup>1</sup> from local switching access rate and incorporating such support into the federal high cost fund.

The regulatory and social policies that have resulted in historical changes of moving from revenue pooling to access, and the recent moves from access to universal service funding have recognized and relied on the concept of cost averaging, in order to preserve universal service goals. As the Commission considers any new regime it must ensure the continuation of the cost averaging principle, in order to guarantee that the congressional mandate of preserving universal service is achieved. Any new settlement mechanism must provide a way to average cost among all switched service providers connected to the public switched network, thus recognizing the interconnected value of the network.

If there is no fee assessed to an interconnected network, one is left with a series of individual networks, some with relatively low cost, others with extremely high cost, and no way to share or average these cost attributes. This fundamental flaw must be overcome before a bill and keep settlement mechanism will work in high cost areas. If not, high cost networks must oppose bill and keep on behalf of their subscribers as these networks will be left to recover their entire cost from the end users residing within the high cost area. While this might seem appropriate on the surface, it undermines universal service objectives and also ignores the value received by end user in low cost areas when they call into or receive calls from high cost areas. In addition, it is critical that transport and related issues of points of interconnection be fully investigated by the Commission before a bill and keep regime is adopted. A pure bill and keep regime violates the premise that all parts of the network bring value to entire network and thus all parties should pay for the average benefit of the network as a whole. If these issues can be resolved, it might be possible for rural, high cost LECs to participate in a unified bill and keep settlement mechanism.

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<sup>1</sup> DEM Weighting is local switching support that provides for the high cost of switching incurred by the ILECs serving less dense and more remote areas

## **Background**

Consideration of changing existing intercarrier compensation regimes requires a complete review and understanding of both prior and current settlement systems. Prior to the introduction of the current access charge regime, intercompany settlements were handled through a pooling of billed revenues. Under this system, each carrier billed a unified fee to the end user, pooled the resulting revenues, and withdrew their individual costs from the pool. Toll revenue pools were dependent on the development of average unified toll rates, which were charged to the end user. The breakup of the Bell system in 1984, provided for toll competition, which led to different carriers charging different toll rates. The assessment of differing toll rates was incompatible with toll pooling. Thus, the old division of revenue toll pools could not function in the face of a competitive toll market.

The division of revenue pools was replaced by the current access regime. Under this mechanism, the provision of toll (other than IntraLATA toll) was separated from the provision of local service. Local exchange service providers (LECs) charged Interexchange carriers (IXCs) access charges for the use of the local network to originate and/or terminate toll calls. The access rate elements were designed to continue the flow of cost support from toll revenues to local service rates, support previously delivered through the toll pools. Thus, access rates were deliberately set higher than the cost of originating and terminating a toll call. When the access charge regime was developed, all access charges were initially pooled through the National Exchange Carrier Association (NECA). This pooling of access charges allowed companies in rural areas to initially assess the same per minute rates as the much larger regional Bell operating companies (RBOC). As the RBOC and other large carriers exited the NECA pools, they continued to support the higher cost rural LECs through the payment of long-term support payments. However, even with this support, access rates in rural areas, soon exceeded the rates charged by RBOCs and other carriers serving more densely populated urban areas. Nevertheless, the stability that

averaging provided, even only among the remaining NECA pool members, allowed rural access charges to remain reasonable even for the highest cost, most rural LECs.

Just as the old division of revenue pools required a unified toll rate to function, access charges, set above cost, require the existence of a single local service provider per service area. Once IXCs and customers have the ability to select among multiple carriers, it is impossible to maintain above-cost access rates, and the support they provide to preserve universal service. Thus, just as the division of revenues pool could not co-exist with multiple toll providers, current intercarrier settlement mechanisms are not sustainable in a competitive local service market. In order to maintain universal service, it is critical that the same care and considerations, taken in the move from division of revenue pools to the current access regime, be taken when developing a settlement mechanism that will allow for the consummation of competition in the local market.

In addition to the policy goal of universal service, two very basic, yet critically important concepts have shaped the settlement mechanisms that have allowed the United States to establish the world's premium telecommunications network. These concepts are (1) the value of a network increases as the size of network grows, and (2) the cost of a network to an individual subscriber is the average cost among all subscribers.

*1. Value of a network increases as the size of a network grows.*

In addition to understanding current and previous settlement systems in the consideration of this NPRM, it is also important to understand the nature of the switched network. The switched telephone network is unlike all other utility services. The value to each individual consumer of most utility services such as water, electrical, cable TV, etc., is independent of the number of consumers on the system. Even if no one else subscribed to these services, the individual subscribing would receive the same benefit. This is not true of telephone service. The value of phone service grows geometrically with the number of subscribers. One phone is worthless, two phones allow one

connection, three phones allow three connections, and four phones allow six connections etc. The more phones added to the network, the greater the value to each individual subscriber. This phenomenon can be expressed by the combinatorial formula:  $n! / [(n-2)! * 2]$ . (The combination of n phones taken two at a time.)

This concept of a network's value increasing as the number of subscribers increases makes the provision of phone service unique among utility services. It has guided the development of the industry for over one hundred years and was given official sanction in the 1934 Telecommunications Act as it underlies and validates the concept of universal service. Networks where all possible entities are interconnected yield the highest possible value for each individual on the network.

2. *The cost of a network to an individual subscriber is the average cost among all subscribers.*

Tied very closely to the concept that the value of a network increases as the size of the network increases, is the concept that the cost of a network should be averaged among all subscribers on the network. This averaging concept is the core reason that universal service and competition seem to be in conflict. Competition drives prices to cost, with cost being defined only in the specific area being served. Universal service on the other hand demands that cost be averaged, either with an implicit mechanism as has been done in the past, or with an explicit mechanism as now directed by the Congress.

The concept of a network also mandates this averaging methodology. In a very simplified manner, the necessity of averaging can be understood by the following example. Assume two entities or LECs develop a network (A and B). The cost of the network between A and B is \$20 per month or \$10 each. Now assume C enters the network. C expands the value of the network three fold, as now the network can connect A to B, A to C, or B to C. However, since C is located further away, the cost of adding C to the network is \$25 per month. Since C's costs are higher than the costs of A or B, C cannot provide service at rates reasonably comparable to A and B without a

sharing of costs between networks. Since both A and B will be connected to C, they should share in this cost. In total, the network costs are \$45 per month and since all three parties realize value, each party now shares the cost by paying \$15 per month, the average cost of the network.

In this example, neither A nor B is providing a cross-subsidy to C. Instead, they are simply averaging and sharing the cost of the network. The fairness of this arrangement can be seen if we consider that the original network could have been between A and C or B and C. In either case, if we assume either A or B bring \$10 of cost into the network and C brings \$25 of cost into the network, a total cost of \$35 would be incurred. Again, assuming that both parties benefit equally from the establishment of the network, each party would share a cost of \$17.50 per month. Thus, in the network, A, B, C, one could just as easily argue that A and B are saving \$2.50 each, as one could argue that they are subsidizing C by \$5.00 each. This concept of averaging has allowed universal service to flourish.

It has long been recognized that subscribers located in sparsely populated rural areas, remote from major populations are among the costliest to service. However, their very remoteness also adds the greatest value to the network. The cost to physically travel to these areas to share communication both in terms of time and dollars is greater than would be experienced within compact metropolitan areas. These rural areas are critical to the health and survival of the metropolitan areas of the country. The Telecommunications Act of 1996 ("Act") recognized the importance of rural America and the critical role that average pricing plays in maintaining universal accessibility. The Act specifically mandates that prices in rural and urban areas be comparable.

This principle of average pricing does not naturally occur within competitive markets. In a normal competitive market, one cannot effectively average cost among competing entities. In fact, competition drives the price to cost. However, the cost of individual networks, making up the public switched network cannot be determined by simply developing cost within each individual network. As shown above, the true cost of the

public switched network is the sum of individual network costs averaged among the entities. It is absolutely critical that this fundamental requirement of cost averaging between networks be recognized as public policy when establishing a new interconnection settlement regime.

## **Key Questions Related to the NPRM**

This NPRM proposed to change the ground rules, which have governed intercarrier compensation for most of the 20<sup>th</sup> century. In seeking comments on this major policy shift, the FCC asks a multitude of specific, detailed questions. In attempting to respond, one quickly becomes bogged down in the details. However, it is critical that major concepts are addressed and a framework established, before the details can be filled in. At this stage, it is much too early to debate details, as the framework is not in place that would give any meanings to the details. We believe it is critical that we not lose sight of the big picture. In any case, our size and the limited resources available to our company make it impossible for us to offer comment on every aspect of this NPRM. Thus, we will focus instead on three major, broad questions raised by the NPRM and an additional issue that needs to be addressed.

1. NPRM Section III.C: Is the current Calling Party Network Pays (“CPNP”) settlement system broken, if so how?
2. NPRM Section III.B.3: Will a bill and keep regime resolve the problems that exist under the current CPNP regime?
3. NPRM Section III.B.4: What new problems could be caused by a bill and keep regime?



4. Additional Issue: How can bill and keep be modified to work in high cost areas and to insure that cost averaging principles of an interconnected network are recognized?

NPRM Section III.C: Is the current Calling Party Network Pays (“CPNP”) settlement system broken, if so how?

The current CPNP systems worked well for many years to assure that network cost averaging principles were met. However, just as toll competition mandated the elimination of division of toll revenue pools, technology and competition within the local loop is threatening the ability to maintain the current settlement system. Specifically the following items inherent in the current CPNP system are making it difficult to sustain the current settlement systems in the evolving competitive local exchange market.

1. Arbitrage across services and jurisdictions due to multiple rate structures.
2. Technological changes allowing network bypass or utilizing the regulatory protected service of IP telephony.
3. The fact that all terminating traffic must flow through a single local service provider selected by the subscriber.
4. Complicated and costly regulatory requirements related to pricing and billing of interconnection costs.

*1. Arbitrage Issues*

The current intercarrier settlement system has been flawed since its inception due to disparate treatment of usage across the local network. The resources utilized and the costs incurred by the local network were the same for originating or terminating all toll calls. However, settlements charged to carriers differed, depending on the jurisdiction of a call. The assessment of different rates for essentially the same service gave rise to

the natural results of carriers seeking to classify calls within the jurisdiction that assessed the lowest rate.

The advent of local competition and the rise of reciprocal compensation settlements led to even greater disparate treatment. A call originated on a local network might give rise to either a charge to or an assessment from an interconnecting carrier depending on whether the interconnecting carrier was classified as a local carrier or an Interexchange carrier. Thus, at this point in time, any given call on a LEC network might be considered (a) local usage of an end user, (b) local connection to another carrier, (c) toll usage subject to intrastate jurisdiction, or (d) toll usage subject to interstate jurisdiction. In each case, a different fee (or expense) would be realized for each call, even though the same basic local loop and switching cost was incurred on each call.

It is abundantly clear to anyone who has spent anytime in administering carrier billing systems that the existing settlement systems with disparate rates leads to misallocation of usage, whether intentional or not. It is important that the existing “patchwork” settlement system be unified. Switching cost do not vary depending on the nature or jurisdiction of the traffic processed. Existing rate structure, allowing different rates for calls that have the same cost characteristics, can not be sustained in a competitive market place.

## *2. New Technologies and Regulatory Favoritism*

In addition to the problems of disparate treatment for similar calls, it is clear that the current settlement system is being threatened by technological innovation. The rapid expansion of wireless networks and now IP telephony strain the current settlement system. The fact that toll calls transported over Internet facilities are not subject to interconnection fees places IP telephony in a protected status. This encourages the shifting of traffic off the switched network. In effect, the segregation of IP telephony into a protected haven creates the same problem posed by arbitrage. The loss of toll usage to both wireless networks and the Internet, lowers volumes on the switched network and thus, in effect, raises per unit rates. In the case of a paging carrier, which primarily

receive traffic, the existing rules require a LEC to provide service and facilities to the paging carrier and perhaps also pay for terminating calls. As with arbitrage issues, a unified rate is necessary to resolve this problem.

### *3. Dealing with the Terminating Bottleneck*

As outlined in the NPRM, the current CPNP system encourages the over-pricing of terminating fees. A carrier wishing to complete a call to any specific end user must utilize the facilities of the local service provider selected by the called end user. Since all cost of the call is currently born by the network originating the call, the terminating network has no incentive to properly price termination fees. In fact, an incentive exists to utilize a captive service to subsidize other competitive services. The monopolistic control of terminating facilities can lead to over-pricing of terminating rates.

This creates inequities between on-net and off-net calls. Since on-net calls avoid the high terminating fees applied to off-net calls, calls within the same network have a price advantage over calls made between networks. As pointed out in the NPRM, this could eventually lead to consumers being attracted to the largest network and thus, the continual consolidation of networks until a monopolistic environment once again exists.

### *4. Costly and Complicated Regulatory Requirements*

The current CPNP system requires regulators to do the impossible. They must fairly and accurately determine the cost of providing intercarrier services and attempt to ensure each individual carrier is charging appropriate rates. The time and expense incurred by the carriers in determining and justifying these rates is enormous. In addition, the current CPNP system requires carriers to establish costly, cumbersome systems to capture intercarrier usage and then bill and collect these fees to the various carriers. When interconnection fees were high and included large amounts of support for local service, these costs were justifiable. However, as interconnection rates are pushed to their cost, the administrative costs associated with capturing and billing interconnection usage becomes significant in relation to revenues received.

NPRM Section III.B.3: Will a bill and keep regime resolve the problems that exist under the current CPNP regime?

As discussed in relation to the arbitrage issue and the problems related to technological change, it is critical that a unified rate be established. Without the requirement that all calls utilizing the local network pay a common fee, arbitrage will continue to be a problem. In addition, until interconnect fees are lowered to reflect actual cost, uneconomical by-pass will continue to occur as customers will select wireless or IP telephony to complete toll calls.

Bill and keep would provide for a unified rate structure assuming it was adopted across all jurisdictions. It would also work to ensure uneconomical by-pass did not occur as carriers could utilize the local network to originate and terminate calls without incurring additional fees. Finally, bill and keep would eliminate the unfair regulatory advantage currently enjoyed by IP networks, which in effect, are already settled under a bill and keep mechanism.

Bill and keep would also eliminate the economical incentive associated with the terminating bottleneck. It would create a more level playing field between large and small networks allowing smaller networks to effectively compete with the large calling scope offered by large networks. Finally, bill and keep would eliminate the need for regulators to continually determine interconnection cost. In addition, it would relieve carriers from the administrative burdens of measuring and billing interconnection usage.

NPRM Section III.B.4: What new problems could be caused by a bill and keep regime?

Notwithstanding the many advantages that the bill and keep regime might have over the current CPNP systems; it creates its own set of problems.

1. Bill and keep does not allow for average network cost concepts, as it does not allow for settlements between carriers.
2. It could discourage investment in rural areas.

These two issues are closely related in that the inability to fully recover cost leads to investing only where cost recovery can be reasonably assured. If cost cannot be averaged across high and low cost areas it is unlikely that investments can be recovered entirely only from customers located within high cost areas. Since bill and keep in its pure form does not allow for cost averaging it could easily hinder investment in high cost areas.

As discussed at length earlier, true network costs cannot be identified within a specific geographical area. The true cost of an interconnected network is the average cost across the network as a whole. The existing intercarrier settlement mechanism allows for high cost carriers to pass through part of their cost to lower cost carriers in the form of interconnection fees. These charges, to some extent, accomplish the averaging of cost across the entire network.

Since under bill and keep there is no charge to other carriers, the ability of a high cost network to recover part of its higher cost from areas outside of the high cost geographical area is eliminated. Thus, the ability to average cost across networks is lost. This very fundamental flaw of bill and keep must be resolved in order for this system to be utilized in rural, high cost areas. It is totally unacceptable for high cost rural end user to bear the entire burden of supporting the high cost areas of the network, while allowing the lower cost areas the benefit of connection to the high cost area without sharing their portion of the high cost burden.

Additional Issue: How can bill and keep be modified to work in high cost areas and to insure that cost averaging principles of an interconnected network are recognized?

As stated above, bill and keep, in its purest form, does not provide the ability to average cost across networks. This, in effect, unfairly strands cost in the high cost areas. In order for bill and keep to function in rural areas, it must include some mechanism to allow for high cost to be recovered from network members as a whole. The concept of terminating fees assessed directly to the end user is one way this could be done.

The NPRM seeks comments as to how end user fees for termination costs should be structured. Bill and keep requires that fees previously assessed to interconnecting carriers be collected instead from end users. Therefore a “network” fee would have to be assessed to the end users to recover cost of receiving calls. The inherent nature of bill and keep is to force de-averaging of prices as each network must stand on its own. It is therefore absolutely critical that any “network” fees assessed to end-users be structured to continue the averaging of network cost. The Commission should prohibit the assessment of a usage based, per minute of use fee. If per minute of use charges were assessed to end users, the immediate effect would be de-averaged toll rates. End users, in rural areas, would be assessed per minute fees many times greater than their urban counter parts. To add insult to injury, many rural end users would be forced to pay these higher rates for calls originated from lower cost urban areas.

The Commission should require any “network” fee assessed to end users to be done so on a flat rate basis. In addition, this fee must contain some averaging component. In other words, the fee should be assessed based on the total network cost to connect across all networks, not simply calculated on individual geographical areas. At least some part of these fees should be pooled through an entity such as the National Exchange Carrier Association to ensure that cost can continue to be averaged across networks.

In addition, it is critical that transport and issues related issues to point of interconnection be fully investigated by the Commission before a bill and keep regime is adopted. Transport cost become critical with bill and keep, the Commission must

carefully monitor the provision of transport and ensure that rates remain competitive. Finally LECs must not be required to bear the cost of meeting interconnecting networks outside of their local service area. Carriers wishing to terminate calls to a rural LEC should be required to establish a point of interconnection within that LEC's local service area.

## **Summary and Conclusion**

This NPRM raises the specter of massive change in settlement procedures and major revenue dislocation. Bill and keep will not work in high cost rural areas without modification to ensure that high cost can continue to be averaged in some manner across all networks. At the same time, it is clear that the existing patchwork rates that exist under the current CPNP regime cannot be maintained in the current competitive marketplace. The Commission is seeking a final long-term solution to interconnection issues. The proposals being considered are not intended to be effective for four to five years. Therefore it is absolutely critical that the Commission take the time to fully evaluate such a massive change. Rural, high cost areas cannot possibly be expected to fully support all costs incurred within the high cost area and maintain reasonably and comparably priced service with urban counterparts. The Commission must ensure that all parties, especially rural high cost LECs, have input into the final decision. Past "carve out" decisions, where rural LECs were initially left out of the decision-making process, only to later be forced into the same initial decision, is totally inappropriate in this matter. If we are to abandon the current CPNP settlement system in favor of bill and keep or other settlement system, rural LECs must be given full voice in the process.

In conclusion, it is apparent that existing interconnecting regimes must be modified. Bill and keep may prove to be the best method for intercarrier settlements; however, it clearly will not work without modification for rural high-cost areas. The Commission must insure that high cost areas are not left isolated and forced to attempt to recover costs that benefits the entire networks from only end users within the high cost areas.

Pooled network fees, that would work to average costs across all networks, may be the best way to resolve this dilemma and ensure that all Americans continue to benefit from the interconnected networks that have made our country's telecommunication system the envy of the world.

Respectfully submitted,

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